

Page 1

Wednesday, June 07, 2017 8:43:19 AM

Item ID: D412-791-043

Accept

N900040100

Setup Start *NS1*

Revision ID:

Item Name: Optional Mapbox

Stop *NS2*

Start Date: 6/8/2017 **Start Qty:** 1.00 ***1***

Cust Item ID:

Required Date: 6/15/2017 **Req'd Qty:** 1.00 *** 1 ***

Customer:

Reference: **DAS**

DAS

21

9-89

Approvals: Process Plan: 9-89 Date: JUN 07 2017 Tooling: _____ Date: _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
IIN-D412-791	B

100 Document Control

100

DC

Memo

Doc.Control -USB or Paperwork

Photocopy bluefile & type labels per PPP 412-791-043 CHG001

110

Pick Kit

110

Packaging

Memo

Packaging

120

QC4- 100% Inspect kits for completeness

120

QC

Memo

Quality Control

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

Work Order ID 162515

Wednesday, June 07, 2017 8:43:19 AM

162515

Page 2

Item ID: D412-791-043

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Optional Mapbox

Start Date: 6/8/2017 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 6/15/2017 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

130

Identify as per dwg & Stock Location: _____

0.00

130

Packaging

Memo

0.00

Packaging

identify and pack for shipping as per PPP D412-791-043
Location: FG020DAS
28
9-89
JUN 26 2017
DAS
28
9-89

140

QC21- Final Inspection - Work Order Release

0.00

140

QC

Memo

0.10

Quality Control

17/6/27 JJ

DAS
21
9-89
JUN 26 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : ☐					

Picklist Print

Monday, June 05, 2017 9:28:46 AM

Page 1

Work Order ID: 162515

162515

Parent Item: D412-791-043

D412-791-043

Parent Item Name: Optional Mapbox

Start Date: 6/8/2017

Required Date: 6/15/2017

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP RevA: New issue DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D3936-041

Manufactured No

110

Each

1.0000

1
**

1

D3936-041

Mapbox Assembly

DAS
28
9-8

Location

Loc Qty

Loc Code

ST381

1

153602

1

110

Each

32.0000

4
**

4

MS35207-244

Purchased

No

MS35207-244

Screw

DAS
28
9-8

Location

Loc Qty

Loc Code

ST271

32

112019

32

DAS
26
9-89
DAS
27
9-89
JUN 22 2017

DAS
26
9-89
JUN 22 2017
DAS
27
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause		FAULT CATEGORY									
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong	☐
Design	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions	☐
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance	☐
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect	☐
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing	☐
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved	☐
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing	☐
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish	☐
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread	☐
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence	☐
Past Expiry Date	☐	Manufacturing Process	☐	OTHER : _____							
Misidentified	☐	Past Due	☐								

7.0 PARTS LIST

QTY -011	QTY -041	QTY -043	QTY -045	QTY -047	QTY -049	PART NUMBER	DESCRIPTION
X						D412-791-011	SAFETY ENHANCEMENT KITS COMPLETE
1	X					D412-791-041	FLASHLIGHT KIT
1		X				D412-791-043	MAPBOX KIT
1			X			D412-791-045	EXIT ILLUMINATION KIT
1				X		D412-791-047	PITOT HEAT MONITORING KIT
1					X	D412-791-049	STANDBY ATTITUDE BATTERY MONITORING KIT
	2					D3921-1	FLASHLIGHT
	4					D3922-1	CLIP
	2					D3923-1	ANGLE
	4					D3924-1	SHIM
	8					MS20426AD3-6	RIVETS
	6					MS20470AD4-5	RIVET
	4					MS21059-L3	ANCHOR NUT
	4					MS35207-264	SCREW
		1				D3936-041	MAPBOX
		4				MS35207-244	SCREW
			16			D3937-041	PHOTOLUMINESCENT STRIPS
			90			D3950-1	RIVET (INCLUDES 10 EXTRA)
				1		18-200	CONNECTOR
				6		1N4007	DIODE
				3		80-004-2-6	POTTED INSERTS
				2		D3896-1	RELAY
				1		D3897-1	ANGLE
				1		LED-50-17-BG-E0705	ANNUNCIATOR
				1		M12883/45-01	RELAY BASE
				1		M81714/16-3	TERMINAL BLOCKS TRACK
				2		M81714/2-DC1	TERMINAL BLOCKS
				1		M81714/2-DD2	TERMINAL BLOCKS

• COPYRIGHT © 2008 BY DART AEROSPACE LTD •

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

Revision: D

Date: 13.02.01

Work Order ID 162515

Wednesday, June 07, 2017 8:43:19 AM

162515

Page 1

Item ID: D412-791-043 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Optional Mapbox
 Start Date: 6/8/2017 Start Qty: 1.00 ***1*** Cust Item ID:
 Required Date: 6/15/2017 Req'd Qty: 1.00 ***1*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: JUN 07 2017 Tooling: _____ Date: _____
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____
 Run Start ***NR1***
 Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
IIN-D412-791	B								
100	Document Control	0.00							
100									
DC	Memo	0.00							
Doc.Control -USB or Paperwork	Photocopy bluefile & type labels per PPP 412-791-043	CHG001							
110	Pick Kit	0.00							
110									
Packaging	Memo	0.00							
Packaging									
120	QC4- 100% Inspect kits for completeness	0.00							
120									
QC	Memo	0.03							
Quality Control									

DAS
5
9-89

JUN 22 2017



Department of Transport

Supplemental Type Certificate

This approval is issued to:

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, Ontario
Canada K6A 1K7

Number: SH09-37

Issue No.: 1

Approval Date: August 13, 2009

Issue Date: August 13, 2009

Responsible Office:

Prairie and Northern

Aircraft/Engine Type or Model:

BELL 204B, 205A-1, 205B, 212, 214B, 214B-1, 412, 412 CF, 412 EP

Canadian Type Certificate or Equivalent:

BELL 205B H-104
BELL 214B, 214B-1 H-80
BELL 212, 412, 412 CF, 412 EP H-86
BELL 204B, 205A-1 H1SW

Description of Type Design Change:

Safety Enhancement Kits

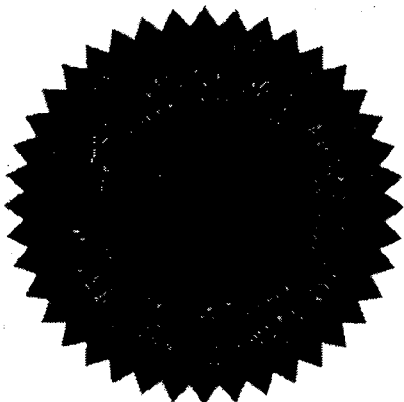
**Installation/Operating Data,
Required Equipment and Limitations:**

Safety Enhancement Kits to be manufactured in accordance with Dart Aerospace Ltd. Master Document List MDL-D412-791 Rev. A dated July 30, 2009, or later Transport Canada approved revision.

Installation of Safety Enhancement Kits to be in accordance with Dart Aerospace Ltd. Installation Instructions IIN-D412-791 Rev. B dated July 22, 2009, or later Transport Canada approved revision.

The Safety Enhancement Kits must be maintained in accordance with Dart Aerospace Ltd. Instructions for Continued Airworthiness ICA-D412-791 Rev. 0, dated July 22, 2009, or later Transport Canada accepted revision.

.../2



Conditions: This approval is only applicable to the type/model of aeronautical product specified therein. Prior to incorporating this modification, the installer shall establish that the interrelationship between this change and any other modification(s) incorporated **will not** adversely affect the airworthiness of the modified product.



Greg Oucharek
For Minister of Transport